

**Delaware Department of Transportation
Division of Transportation Solutions
Design Guidance Memorandum**

Memorandum Number 1-8

1. Road Design Manual 2. Bridge Design Manual 3. Utilities Design Manual
4. Real Estate Manual 5. Standard Specifications 6. Standard Construction Details
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Title: Grass Shoulders

Effective date: July 17, 2002

Sections to Implement: X Road, X Bridge, X PMT, X Design Support,
X Specification, Utility, Real Estate, X Quality Management, X Maintenance &
Operations, X Field Services, District, Other

I. Purpose:

To provide guidance for the design details of grass shoulders.

II. Design Guidance:

Grass shoulders should be used only for special project needs. If the use of grass shoulders is decided, several options are available. The design shall consider that vehicles often drift off the roadway and cause rutting of the shoulder edge. This is particularly noticeable at intersections and on the inside of sharp curves. Vehicles may also park on the grass shoulder. Design personnel should consider the following and may use one or more items to satisfy project needs:

1. Use inground pavers or geogrid or their combination, which give stability and allow grass to grow up through them. This is suitable for the area where parking is anticipated. Consideration should be given to this solution where trash pick-up or mail delivery could rut the shoulder.
2. Provide a two foot paved shoulder adjacent to the grass shoulder, which may or may not be stabilized. The two foot paved shoulder might include a rumble strip.
3. Provide a pavement edge line to determine the edge of the travel lane.
4. In a heavily salted area, Item 734515, Permanent Seeding; Alkaligrass may be used. For other areas, Item 734013, Permanent Grass Seeding, Dry Ground, may be used. For use of other items, contact Roadside Environmental Administrator.
5. The time of year for seeding and the length of time after seeding before the shoulder is subject to traffic are important. Phasing of work should provide time for growth after seeding, and the shoulder should be protected until the grass is firmly established. A project note addressing the timing and protective measures may be necessary.

Grass shoulder shall not be used directly under any overpass bridge.

III. Justification:

Rutting of grass shoulders by vehicles running off the road or parking on the shoulders is a maintenance problem that is time consuming and costly to correct. Grass shoulders without proper treatment may also be a safety hazard. This is particularly true on narrow travel lanes and at locations of sharp curves.

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July 17, 2002
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July 17, 2002
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